Milwaukee Water Works

Safe, Abundant Drinking Water.

2016 Consumer Confidence Report

The U.S. Environmental Protection Agency (EPA) and Wisconsin Department of Natural Resources (DNR) require drinking water utilities including the Milwaukee Water Works (MWW) to provide an annual Consumer Confidence Report to inform you of the source and quality of your drinking water, compliance and detected contaminants, and results from treating and monitoring water from January 1 through December 31, 2016.

Important Information
This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Informacion Importante para nuestros clientes que hablan español
Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo o hable con alguien que lo entienda bien.

Lug tseem ceeb rua cov siv dlej kws has lug Moob
Ntawm nuav yog cov lug tseem ceeb qha txug kev haus dlej nyob nroog Milwaukee. Yog mej nyeem tsi tau cov lug nuav, thov lwm tug txhais rua mej.

The Milwaukee Water Works is recognized as a national leader in providing safe, high-quality drinking water

- Milwaukee water complies with all state and federal drinking water standards. The Milwaukee Water Works is known for its extensive water quality monitoring program that reaches beyond basic requirements. The program includes organisms and contaminants, or substances, that are not yet regulated but considered of emerging concern and/or are under study for possible effects on public health.

- **The Water Research Foundation (WRF) awarded its 2016 Outstanding Subscriber Award for Applied Research to the Milwaukee Water Works.** Milwaukee was honored for successfully applying its own and WRF research to make notable improvements to the water treatment, delivery and management processes.

- **The Milwaukee Water Works was featured as WRF observed its 50th anniversary** as seen in a video here. (http://www.waterrf.org/the-foundation/Pages/celebrating50years.aspx) Read the Milwaukee Water Works and Ozone story. (http://www.waterrf.org/the-foundation/Documents/Milwaukee-Water-Works-and-Ozone.pdf)

- **The Wisconsin Section of the American Water Works Association (AWWA) presented its 2016 Utility Special Achievement Award to the Milwaukee Water Works** for working effectively with health and regulatory agencies to shape field and water quality monitoring activities and customer outreach to reduce lead at customers' taps. Read about the Lead Service Line award**.**
(http://city.milwaukee.gov/ImageLibrary/Groups/WaterWorks/files/WIAWWAUtilityAwardMilwaukeeWaterWorksSept2016.pdf)

- **The Milwaukee Water Works Water Quality Section was published nationally** in the January 2017 issue of the *Journal* AWWA in a report of Milwaukee's 2014-2016 research findings about lead and drinking water sampling. Collaborative review of the sampling was provided by the City of Milwaukee Health Department, Wisconsin Department of Health Services, Department of Natural Resources, and the EPA. Access is available to members of the AWWA: "Lead Water Service Lines: Extensive Sampling and Field Protocol Protects Public Health." (https://www.awwa.org/publications/journal-awwa/abstract/articleid/63106515.aspx)

Item 1: Water System Information

If you have questions about this report, please call one of our Water Quality professionals, (414) 286-2585.

Participate in decisions that affect drinking water quality

Attend meetings of the City of Milwaukee Common Council Public Works Committee, which meets at 9:00 a.m. on the first Wednesday of each month in the Milwaukee City Hall, Room 301B, 200 East Wells Street, Milwaukee, WI 53202. You may also attend meetings of the City of Milwaukee Common Council, which meets in the Milwaukee City Hall, 3rd Floor Common Council Chambers, 200 East Wells Street, Milwaukee, WI 53202. Common Council meeting dates vary. Please contact the City Clerk for a schedule, (414) 286-2221, or visit http://city.milwaukee.gov/cityclerk/PublicRecords/Agendas.htm

Item 2: Source of Water

Milwaukee's water source is surface water from Lake Michigan.

Item 3: Definitions

<	"less than" or not detected
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow. Action Levels are reported at the 90th percentile for homes at greatest risk.
Haloacetic Acids	HAA5: Monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, dibromoacetic acid, tribromoacetic acid, bromochloroacetic acid, dibromochloroacetic acid, and bromodichloroacetic acid.
HA	Health Advisory: An estimate of acceptable drinking water levels for a chemical substance based on health effects information; a Health Advisory is not a legally enforceable federal standard, but serves as technical guidance to assist federal, state and local officials.
Median	The middle value of the entire data set for the parameter (range from high to low)
µg/L	Microgram per liter or parts per billion
MCL	Maximum Contaminant Level: The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MRDL	Maximum residual disinfectant level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum residual disinfectant level goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
mg/L	Milligram per liter or parts per million
NA	Not Applicable
ng/L	Nanogram per liter
NR	Not Regulated
NTU	Nephelometric Turbidity Unit: A unit to measure turbidity.
pCi/L	Picocuries per Liter: A measure of radioactivity. A picocurie is 10^{-12} curies.
RAA	Running Annual Average: The average of four quarterly samples collected in one 12-month period.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water
Trihalomethanes	TTHMs: Chloroform, bromodichloromethane, dibromochloromethane, and bromoform
Turbidity	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. For 2015, the highest combined filter effluent value detected or Maximum Value was 0.21 NTU and < 0.3 NTU 100% of the time.

Item 4: Detected Contaminants – Primary The tables on the following pages show the regulated contaminants, or substances, detected in Milwaukee's drinking water during 2016. It also includes all contaminants tested for in the most recent (2013) Unregulated Contaminant Monitoring Rule – Phase 3 (UCMR-3) mandatory monitoring program. All contaminant levels are within applicable state and federal laws. The tables contain the name of each contaminant, the highest level regulated (Maximum Contaminant Level, or MCL), the ideal goals for public health (Maximum Contaminant Level Goal, or MCLG), the median value detected, the usual sources of such contamination, possible health effects, and footnotes explaining the findings and units of measurement. The presence of a substance in drinking water does not necessarily indicate the water poses a health risk. Certain quantities of some substances are essential to good health, but excessive quantities can be hazardous.

Primary Contaminants

Substance	Ideal Goals (MCLG)	Highest Level Allowed (MCL)	Median Value	Highest Level Detected	Source(s) of Contaminant	Meets Standard	Health Effects
Antimony	6 ug/L	6 ug/L	0.15 ug/L	0.16 ug/L	Natural deposits	Yes	Increase in blood cholesterol; decrease in blood sugar
Arsenic	10 ug/L	10 ug/L	0.5 ug/L	0.5 ug/L	Natural deposits	Yes	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer
Atrazine		3 ug/L	0.02 ug/L	0.02 ug/L	Herbicide	Yes	Cardiovascular system or reproductive problems
Barium	2 mg/L	2 mg/L	0.019 mg/L	0.019 mg/L	Natural deposits	Yes	Increase in blood pressure
Bromate	10 ug/L	10 ug/L RAA	3.2 ug/L	7.6 ug/L	Byproduct of drinking water disinfection	Yes	Increased risk of cancer
Chlorate	NA	NR	82 ug/L	210 ug/L	Byproduct of drinking water disinfection	NR	Affects red blood cells oxygen carrying capacity, affects on thyroid function.
Chlorine, total	4 mg/L	4 mg/L	1.57 mg/L	2.00 mg/L	Residual of drinking water disinfection	Yes	Eye/nose irritation; stomach discomfort
Chlorite	0.8 mg/L	1.0 mg/L	0.003 mg/L	0.004 mg/L	Byproduct of drinking water disinfection	Yes	Anemia; infants and young children: nervous system effects
Chromium, hexavalent	NA	NR	0.19 ug/L	0.23 ug/L	Natural deposits and manufacturing	NR	Effects on the liver, kidney, gastrointestinal and immune systems.
Chromium, total	NA	100 ug/L	0.5 ug/L	0.5 ug/L	Natural deposits and manufacturing	Yes	Chromium (III) is an essential element in humans, with a daily intake of 50 to 200 ug/d recommended for adults.
Copper	1.3 mg/L	1.3 mg/L (AL)	<0.002 mg/L	0.016 mg/L	Corrosion of household plumbing systems	Yes	Gastrointestinal distress, long term exposure liver or kidney damage
Fluoride	4 mg/L	4 mg/L	0.57 mg/L	0.69 mg/L	Water treatment additive Natural deposits	Yes	Bone disease (pain and tenderness of the bones); Children may get mottled teeth
Haloacetic Acids (9), Total		60 ug/L	2.6 ug/L	6.4 ug/L	Byproduct of drinking water disinfection	Yes	Increased risk of cancer
Individual Haloacetic Acids			Individual Haloacetic Acids				
Bromochloroacetic Acid			<1.0 ug/L	1.3 ug/L			
Bromodichloroacetic Acid			<1.0 ug/L	1.5 ug/L			
Dichloroacetic Acid			<1.0 ug/L	2.0 ug/L			
Trichloroacetic acid			<1.0 ug/L	1.3 ug/L			
Heterotrophic Plate Count	NA	TT	Met Requirement	Met Requirement	Naturally present in the environment	Yes	HPC has no health effects; it is an analytic method used to measure the variety of bacteria that are common in water.
Nitrate, as N		10 mg/L	0.41 mg/L	0.70 mg/L		Yes	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Nitrite, as N		1 mg/L	0.003 mg/L	0.024 mg/L		Yes	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Perchlorate	NA	Regulation pending	0.13 ug/L	0.14 ug/L	Byproduct of drinking water disinfection	NR	Inhibits the absorption of iodine by the thyroid glands, leading to developmental and learning disabilities in children.
Strontium		NR	110 ug/L	110 ug/L	Natural deposits	Yes	Effects on bone growth in children
Radionuclides					Natural deposits	Yes	
Individual Radionulides			Individual Radionuclides				
Gross Alpha Particles, excluding Ra + U		15 pCi/L	1.86 ± 2.00	3.42 ± 1.99			Increased risk of cancer
Gross Alpha Particles	NR		2.03 ± 2.0	3.6 ± 2.0			Increased risk of cancer
Gross Beta Particles		50 pCi/L	3.9 ± 1.9	4.0 ± 1.9			Increased risk of cancer
Radium 226		5 pCi/L	0.16 ± 0.16	0.20 ± 0.18			Increased risk of cancer
Radium 228		5 pCi/L	1.05 ± 0.58	1.4 ± 0.7			Increased risk of cancer
Radium, combined (226 + 228)		5 pCi/L	1.20 ± 0.60	1.51 ± 0.71			Increased risk of cancer
Uranium		30 mg/L	<0.0010	<0.0010			Increased risk of cancer, kidney toxicity
Trihalomethanes, total	NA	80 ug/L	3.6 ug/L	9.1 ug/L	Byproduct of drinking water disinfection	Yes	Liver, kidney or central nervous system problems; increased risk of cancer
Individual Trihalomethanes			Individual Trihalomethanes				
Bromodichloromethane			0.5 ug/L	3.5 ug/L			
Bromoform			<0.5 ug/L	0.5 ug/L			
Chloroform			1.8 ug/L	3.4 ug/L			
Dibromochloromethane			1.4 ug/L	2.8 ug/L			
Turbidity	NA	<0.3 NTU 95% of the time	0.05 NTU	0.33 1-day maximum	Natural deposits	Yes	Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness.

Item 4: Detected Contaminants – Secondary

Secondary Contaminants							
Substance	Ideal Goals (MCLG)	Highest Level Allowed (MCL)	Median Value	Highest Level Detected	Source(s) of Contaminant	Meets Standard	Health Effects
Aluminum	0.2 mg/L	0.05-0.20 mg/L	0.051 mg/L	0.159 mg/L	Water treatment additive Natural deposits	NR	None in drinking water, aesthetic quality of water.
Chloride	250 mg/L	250 mg/L	14.5 mg/L	23.5 mg/L	Natural deposits and road salt	NR	None in drinking water, aesthetic quality of water.
Iron	300 ug/L	300 ug/L (S)	4 ug/L	25 ug/L	Natural deposits	NR	None in drinking water, aesthetic quality of water.
Manganese		50 ug/L (S)	<0.5 ug/L	1.0 ug/L	Natural deposits	NR	None in drinking water, aesthetic quality of water.
pH	NA	6.5 - 8.5 (S)	7.62	7.89	Naturally present in the environment	Yes	NA
Sulfate		500 mg/L (S)	28.0 mg/L	32.4 mg/L	Natural deposits	Yes	None in drinking water, aesthetic quality of water.
Total Dissolved Solids	500 mg/L	500 mg/L (S)	180 mg/L	207 mg/L	Aggregate of dissolved minerals	NR	None in drinking water, aesthetic quality of water.
Zinc		5 mg/L (S)	<0.01 mg/L	0.06 mg/L	Natural deposits Metal plating	Yes	None in drinking water, aesthetic quality of water.

Lead and Copper Compliance Monitoring Results 2014

Lead and Copper	Action Level	90th percentile	Highest level detected
Copper (2014)	1200 ug/L	38 ug/L	130 ug/L
Lead (2014)	15 ug/L	8.2 ug/L	21 ug/L

UCMR-3 Assessment Monitoring (2013)

UCMR-3 Assessment Monitoring (2013)	Median Value	Highest Level Detected	Source of Contaminants	Health Effects
Chromium	0.3 ug/L	0.3 ug/L	Natural deposits, manufacturing	Chromium (III) is an essential element in humans, with a daily intake of 50 to 200 ug/d recommended for adults.
Cobalt	<1.0 ug/L	<1.0 ug/L	Natural deposits.	possible fetal development, possible human carcinogen
Molybdenum	1.0 ug/L	1.1 ug/L	Natural deposits.	Toxic to animals at very high concentrations.
Strontium	0.12 mg/L	0.12 mg/L	Natural deposits.	Effects on bone growth in children
Vanadium	0.3 ug/L	0.3 ug/L	Natural deposits, manufacturing	Gastrointestinal symptoms
Chromium, Hexavalent	0.20 ug/L	0.25 ug/L	Natural deposits, manufacturing	Effects on the liver, kidney, gastrointestinal and immune
Chlorate	0.06 ug/L	0.10 ug/L	Byproduct of drinking water disinfection	Affects red blood cells oxygen carrying capacity, affects on
1,4-Dioxane	<0.07 ug/L	<0.07 ug/L	Manufacturing of paints and solvents	Likely to be carcinogenic
Bromochloromethane	<0.06 ug/L	<0.06 ug/L	Byproduct of drinking water disinfection, Fire extinguishing agent	Maybe toxic to kidneys, lungs, liver, repiratory tract, skin, eyes and central nervous system.
Bromomethane	<0.2 ug/L	<0.2 ug/L	Fumigant	Increased cancer risk
1,3-Butadiene	<0.1 ug/L	<0.1 ug/L	Plastic manufacturing	Increased cancer risk
Chlorodifluoromethane	<0.08 ug/L	<0.08 ug/L	Refrigerant	Cardiac effects
Chloromethane	<0.2 ug/L	<0.2 ug/L	Byprodcut of drinking water disinfection, manufacturing	Central nervous system effects
1,1-Dichloroethane	<0.03 ug/L	<0.03 ug/L	Plastic manufacturing	Increased cancer risk
1,2,3-Trichloropropane	<0.03 ug/L	<0.03 ug/L	Solvents, pesticide manufacturing	Increased cancer risk
Perfluorobutanesulfone acid (PFBS)	<0.09 ug/L	<0.09 ug/L	Waterproofing, textile manufacturing	Effects on blood, liver and kidneys
Perfluoroheptanoic acid (PFHpA)	<0.01 ug/L	<0.01 ug/L	Waterproofing, textile manufacturing	Effects on blood, liver and kidneys
Perfluorohexanesulfonic acid (PFHxS)	<0.03 ug/L	<0.03 ug/L	Waterproofing, textile manufacturing	Effects on blood, liver and kidneys
Perfluorononanoic acid (PFNA)	<0.02 ug/L	<0.02 ug/L	Waterproofing, textile manufacturing	Effects on blood, liver and kidneys
Perfluorooctane sulfonate (PFOS)	<0.04 ug/L	<0.04 ug/L	Waterproofing, textile manufacturing	Effects on blood, liver and kidneys
Perfluorocatanoic acid (PFOA)	<0.02 ug/L	<0.02 ug/L	Waterproofing, textile manufacturing	Effects on blood, liver and kidneys
UCMR-3 Screening Survey (2013)				
4-Androstene-3, 17-dione	<0.3 ng/L	<0.3 ng/L	Hormone	Endrocrine disruptor
Equilin	<4 ng/L	<4 ng/L	Hormone	Endrocrine disruptor
17 beta Estradiol	<0.4 ng/L	<0.4 ng/L	Hormone	Endrocrine disruptor
Estriol	<0.8 ng/L	<0.8 ng/L	Hormone	Endrocrine disruptor
Estrone	<2 ng/L	<2 ng/L	Hormone	Endrocrine disruptor
17 alpha-Ethynyl Estradiol	<0.9 ng/L	<0.9 ng/L	Hormone	Endrocrine disruptor
Testosterone	<0.1 ng/L	<0.1 ng/L	Hormone	Endrocrine disruptor

Item 5: Information on monitoring for *Cryptosporidium*, Radon, and Other Contaminants (if detected)

Cryptosporidium was not detected in any of 24 source water samples during 2016. There were no detections of *Cryptosporidium* in the finished water in 2016.

The table below shows the unregulated substances detected in Milwaukee's drinking water during 2016. Any known possible health effects for these substances are listed in the table. A complete list of over 500 substances tested for can be found at http://city.milwaukee.gov/ImageLibrary/Groups/WaterWorks/files/UndetectedChemicalContaminants-TreatedWater.pdf

Substance	Range of values detected	Source of Contaminant	Health Effects
Acesulfame-K	30 ng	Artifical sweetner	None proposed for human
Ammonia,[1] as N	0.02 - 0.66 mg/L	Disinfection with chloramines; wastes; fertilizers and natural processes	None proposed for human but toxic for aquatic life
Boron[2]	18 ug/L	Naturally occuring; borax mining and refining; boric acid manufacturing	Stomach, liver, kidney or central nervous system problems
Bromide	25 ug/L - 62 ug/L	Naturally occuring	None from drinking water
Bromochloroacetonitrile	0.6 - 1.3 ug/L	Byproduct of drinking water disinfection	Increased risk of cancer
Calcium	34 mg/L	Naturally occuring	None from drinking water
Chloropicrin	<0.5 - 1.5 ng/L	Fungicide, herbicide, insecticide and nematicide	Eye/nose irritation; stomach discomfort
DEET	15 ng/L	Insect repellant	None proposed for human, slightly toxic to birds, fish, aquatic invertebrates
Desethylatrazine	<0.1 - 0.1 ng/L	Herbicide	Endocrine disruptror
Dibromoacetonitrile	<0.5 - 1.7 ng/L	Byproduct of drinking water disinfection	Eye/nose irritation
Dichloroacetonitrile	<0.5 - 3.3 ng/L	Byproduct of drinking water disinfection	Increased risk of cancer
1,1-Dichloropropanone	<0.5 - 0.8 ng/L	Byproduct of drinking water disinfection	Increased risk of cancer
Erucylamide	3.3 ug/L	Manufacturing of paints, surfactants and lubricants.	Gastrointestinal symptoms
Gallium	<1.0 - 1.0 ug/L	Electronics manufacturing	Damage to liver and kidneys, may affect nervous system and lungs.
Lithium	2 ug/L	Naturally occuring	Affects to thyroid function
Magnesium	12 mg/L	Naturally occuring	None from drinking water
Nickel	<1.0-3.2 ug/L	Naturally occuring	None from drinking water
N-Nitrosodiethylamine (NDEA)	<2.0 - 2.3 ng/L	Rubber, leather, pesticide and dye manufacturing	None in drinking water.
Silica	1.8 - 2.0 mg/L	Naturally occuring	Effects on liver, increased cancer risk
Sucralose	32-36 ng/L	Artifical sweetner	None from drinking water
Total Organic Carbon	1.1 - 1.7 mg/L	Naturally present in the environment	None proposed for human
Total Solids	150 - 260 mg/L	Measure of solid materials in water	Total organic carbon has no health effects.
1,1,1-Trichloropropanone	<0.5 - 2.0 ug/l	Byproduct of drinking water disinfection	None from drinking water
			Increased risk of cancer

Definitions

< "less than" or not detected

HA Health Advisory: An estimate of acceptable drinking water levels for a chemical substance based on health effects information; a Health Advisory is not a legally enforceable federal standard, but serves as technical guidance to assist federal, state and local officials.

µg/L microgram per liter or parts per billion

mg/L milligram per liter or parts per million

ng/L Nanogram per liter

[1]Ammonia has a lifetime HA of 30 mg/L

[2]Boron has a lifetime HA of 6 mg/L

[3]Isophorone has a lifetime HA of 100 µg/L

Item 6: Compliance with Other Drinking Water Regulations

The Milwaukee Water Works had one monitoring violation, or Notice of Non-Compliance, of the Safe Drinking Water Act in 2016. The Notice of Non-Compliance was issued by the Wisconsin Department of Natural Resources. Although MWW properly collected the 2016 third quarter disinfection by-product (DBP) compliance samples, the temperature of one of the six samples exceeded the acceptable temperature for analysis when the sample arrived at the analytical laboratory. The laboratory failed to notify MWW about this, so we were unable to collect a replacement sample within the designated sampling interval. Even though the results of the other five samples were just fine, the DNR considers that the samples were never collected. We were therefore in violation of monitoring regulations. The results of the samples that were analyzed were much lower than the acceptable concentration limits for DBPs, as they always are for our water system. (DBPs are very low in MWW's treated water due to a combination of the high quality of Lake Michigan source water and to the use of ozone as the primary disinfectant in our water treatment processes.) MWW remains committed to providing the cleanest and safest tap water that we can to all our customers.

Item 7: Variances and Exemptions (not applicable)

Item 8: Required Educational Information

As water flows through rivers and lakes and over land surfaces, naturally occurring substances may be dissolved in the water that reaches Lake Michigan. These substances are referred to as contaminants. Surface water sources may be highly susceptible to contaminants. Surface water is also affected by animal and human activities. Read the DNR Source Water Assessment for Milwaukee. Contaminants that may be present in source water include microbial contaminants such as viruses, protozoa and bacteria; inorganic contaminants such as salts and metals, pesticides and herbicides, organic chemical contaminants, and radioactive contaminants.

To ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline, (800) 426-4791. The table of contaminants detected by the Milwaukee Water Works is on pages 3-4 of this report.

Health Precautions

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking tap water from their health care providers. EPA/ Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791, and the CDC at cdc.gov/parasites/crypto.

Cryptosporidium

Cryptosporidium is a microscopic protozoan that when ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. In collaboration with the Milwaukee Health Department, we consider *Cryptosporidium* detection a priority, and since 1993, we have continued to test source and treated water for *Cryptosporidium*. The organism is found in many surface water sources (lakes, rivers, streams) and comes from human and animal wastes in the watershed. The risk of *Cryptosporidium* from drinking water in Milwaukee has been reduced to extremely low levels by an effective treatment combination including ozone disinfection, coagulation, sedimentation, biologically active filtration, and chloramine disinfection.

The Milwaukee Water Works provides a brochure based on EPA and CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium.* Obtain a copy from our Customer Service Center, (414) 286-2830, or at

milwaukee.gov/water, click on Water Quality at the top, and scroll down to Resources, choose "Information for Persons with weakened immune systems."

Lead and Copper

When lead is found in drinking water it is usually because lead can dissolve from lead service lines and plumbing fixtures, especially when water sits unused for several hours. To prevent lead from dissolving into the water, we add phosphate that forms a protective coating inside pipes. We have provided this corrosion control since 1996 to meet EPA standards. The most common source of lead is from paint in older homes built before 1978. Lead can cause health problems if it enters your body. Children under the age of six, and women who may become pregnant, are pregnant, or are breastfeeding are at special risk. Find more information at Milwaukee.gov/lead and LeadSafeMke.com

Notice to Parents of Infants Six Months of Age or Younger

According to the CDC, the proper amount of fluoride from infancy and at all ages throughout life helps prevent and control tooth decay (cavities). Therefore, the Milwaukee Water Works, following public health recommendations, maintains a level of fluoride in our drinking water that is both safe and effective. Per Common Council File No. 120187 adopted on July 24, 2012, we are required to include the following advisory regarding fluoride and young infants in our annual water quality reports and on our website.

The American Academy of Pediatrics recommends exclusive breastfeeding for the first six months of a child's life, followed by continued breastfeeding as complementary foods are introduced, for optimal short- and long-term health advantages. Go to http://pediatrics.aappublications.org/content/129/3/e827 for more information.

As of August 31, 2012, Milwaukee water is fluoridated at a level not to exceed 0.7 mg/L. According to the CDC, for infants up to six months of age, if tap water is fluoridated or has substantial natural fluoride (0.7 mg/L or higher) and is being used to dilute infant formula, a parent may consider using a low-fluoride alternative water source. Bottled water known to be low in fluoride is labeled as purified, deionized, demineralized, distilled, or prepared by reverse osmosis. Ready-to-feed (no-mix) infant formula typically has little fluoride and may be preferable at least some of the time. If breastfeeding is not possible, parents should consult a pediatrician about an appropriate infant formula option. Parents should be aware that there may be an increased chance of mild dental fluorosis if the child is exclusively consuming infant formula reconstituted with fluoridated water. Dental fluorosis is a term that covers a range of visible changes to the enamel surface of the tooth. Go to http://www.cdc.gov/fluoridation/safety/infant_formula.htm for more information on dental fluorosis and the use of fluoridated drinking water in infant formula.